

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/679,694

Source: _____

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RAW SEQUENCE LISTING DATE: 10/18/2004
 PATENT APPLICATION: US/10/679,694 TIME: 09:28:11

Input Set : N:\Crf3\RULE60\10679694.raw.txt
 Output Set: N:\CRF4\10182004\J679694.raw

SEQUENCE LISTING

3 (1) GENERAL INFORMATION:
 5 (i) APPLICANT: Margolis, Benjamin L.
 7 (ii) TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TREATMENT
 8 OF BREAST CANCER
 10 (iii) NUMBER OF SEQUENCES: 21
 12 (iv) CORRESPONDENCE ADDRESS:
 13 (A) ADDRESSEE: PENNIE & EDMONDS LLP
 14 (B) STREET: 1155 Avenue of the Americas
 15 (C) CITY: New York
 16 (D) STATE: New York
 17 (E) COUNTRY: U.S.A.
 18 (F) ZIP: 10036-2711
 20 (v) COMPUTER READABLE FORM:
 21 (A) MEDIUM TYPE: Floppy disk
 22 (B) COMPUTER: IBM PC compatible
 23 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 24 (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
 26 (vi) CURRENT APPLICATION DATA:
 C--> 32 (A) APPLICATION NUMBER: US/10/679,694
 C--> 33 (B) FILING DATE: 07-Oct-2003
 29 (C) CLASSIFICATION: 435
 31 (viii) ATTORNEY/AGENT INFORMATION:
 34 (A) NAME: Coruzzi, Laura A.
 35 (B) REGISTRATION NUMBER: 30,742
 36 (C) REFERENCE/DOCKET NUMBER: 7683-053
 38 (ix) TELECOMMUNICATION INFORMATION:
 39 (A) TELEPHONE: (212) 790-9090
 40 (B) TELEFAX: (212) 869-9741/8864
 41 (C) TELEX: 66141 PENNIE
 45 (2) INFORMATION FOR SEQ ID NO: 1:
 47 (i) SEQUENCE CHARACTERISTICS:
 48 (A) LENGTH: 6 amino acids
 49 (B) TYPE: amino acid
 50 (C) STRANDEDNESS: single
 51 (D) TOPOLOGY: unknown
 53 (ii) MOLECULE TYPE: peptide
 55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
 W--> 57 Gly Xaa Gly Xaa Xaa Gly
 58 1 5
 61 (2) INFORMATION FOR SEQ ID NO: 2:
 63 (i) SEQUENCE CHARACTERISTICS:
 64 (A) LENGTH: 4 amino acids

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```

65         (B) TYPE: amino acid
66         (C) STRANDEDNESS: single
67         (D) TOPOLOGY: unknown
69     (ii) MOLECULE TYPE: peptide
71     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
72     Val Ala Val Lys
73     1
74
77 (2) INFORMATION FOR SEQ ID NO: 3:
78     (i) SEQUENCE CHARACTERISTICS:
79         (A) LENGTH: 5 amino acids
80         (B) TYPE: amino acid
81         (C) STRANDEDNESS: single
82         (D) TOPOLOGY: unknown
83     (ii) MOLECULE TYPE: peptide
84     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
W--> 85     Gly Met Xaa Tyr Leu
86     1      5
87
89 (2) INFORMATION FOR SEQ ID NO: 4:
90     (i) SEQUENCE CHARACTERISTICS:
91         (A) LENGTH: 9 amino acids
92         (B) TYPE: amino acid
93         (C) STRANDEDNESS: single
94         (D) TOPOLOGY: unknown
95     (ii) MOLECULE TYPE: peptide
96     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
97     Ile His Arg Asp Leu Ala Ala Arg Asn
98     1      5
99
101 (2) INFORMATION FOR SEQ ID NO: 5:
102     (i) SEQUENCE CHARACTERISTICS:
103         (A) LENGTH: 6 amino acids
104         (B) TYPE: amino acid
105         (C) STRANDEDNESS: single
106         (D) TOPOLOGY: unknown
107     (ii) MOLECULE TYPE: peptide
108     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
109     Lys Trp Met Ala Pro Glu
110     1      5
111
113 (2) INFORMATION FOR SEQ ID NO: 6:
114     (i) SEQUENCE CHARACTERISTICS:
115         (A) LENGTH: 6 amino acids
116         (B) TYPE: amino acid
117         (C) STRANDEDNESS: single
118         (D) TOPOLOGY: unknown
119     (ii) MOLECULE TYPE: peptide
120     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
121     Lys Trp Thr Ala Pro Glu
122     1      5
123
125 (2) INFORMATION FOR SEQ ID NO: 7:
126     (i) SEQUENCE CHARACTERISTICS:

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144      (A) LENGTH: 6 amino acids
145      (B) TYPE: amino acid
146      (C) STRANDEDNESS: single
147      (D) TOPOLOGY: unknown
149      (ii) MOLECULE TYPE: peptide
151      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
153      Phe Trp Tyr Ala Pro Glu
154      1          5
157 (2) INFORMATION FOR SEQ ID NO: 8:
159      (i) SEQUENCE CHARACTERISTICS:
160          (A) LENGTH: 7 amino acids
161          (B) TYPE: amino acid
162          (C) STRANDEDNESS: single
163          (D) TOPOLOGY: unknown
165      (ii) MOLECULE TYPE: peptide
167      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
169      Ser Asp Val Trp Ser Phe Gly
170      1          5
173 (2) INFORMATION FOR SEQ ID NO: 9:
175      (i) SEQUENCE CHARACTERISTICS:
176          (A) LENGTH: 334 amino acids
177          (B) TYPE: amino acid
178          (C) STRANDEDNESS: single
179          (D) TOPOLOGY: unknown
181      (ii) MOLECULE TYPE: protein
183      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
185      Arg Asp Ser Ser Arg Leu Cys Val Val Lys Val Tyr Ser Glu Asp Gly
186      1          5          10          15
188      Ala Cys Arg Ser Val Glu Val Ala Ala Gly Ala Thr Ala Arg His Val
189      20          25          30
191      Cys Glu Met Leu Val Gln Arg Ala His Ala Leu Ser Asp Glu Ser Trp
192      35          40          45
194      Gly Leu Val Glu Ser His Pro Tyr Leu Ala Leu Glu Arg Gly Leu Glu
195      50          55          60
197      Asp His Glu Phe Val Val Glu Val Gln Glu Ala Trp Pro Val Gly Gly
198      65          70          75          80
200      Asp Ser Arg Phe Ile Phe Arg Lys Asn Phe Ala Lys Tyr Glu Leu Phe
201      85          90          95
203      Lys Ser Pro Pro His Thr Leu Phe Pro Glu Lys Met Val Ser Ser Cys
204      100          105          110
206      Leu Asp Ala Gln Thr Gly Ile Ser His Glu Asp Leu Ile Gln Asn Phe
207      115          120          125
209      Leu Asn Ala Gly Ser Phe Pro Glu Ile Gln Gly Phe Leu Gln Leu Arg
210      130          135          140
212      Gly Ser Gly Arg Gly Ser Gly Arg Lys Leu Trp Lys Arg Phe Phe Cys
213      145          150          155          160
215      Phe Leu Arg Arg Ser Gly Leu Tyr Tyr Ser Thr Lys Gly Thr Ser Lys
216      165          170          175
218      Asp Pro Arg His Leu Gln Tyr Val Ala Asp Val Asn Glu Ser Asn Val

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```

219          180          185          190
221 Tyr Val Val Thr Gln Gly Arg Lys Leu Tyr Gly Met Pro Thr Asp Phe
222          195          200          205
224 Gly Phe Cys Val Lys Pro Asn Lys Leu Arg Asn Gly His Lys Gly Leu
225          210          215          220
227 His Ile Phe Cys Ser Glu Asp Glu Gln Ser Arg Thr Cys Trp Leu Ala
228          225          230          235          240
230 Ala Phe Arg Leu Phe Lys Tyr Gly Val Gln Leu Tyr Lys Asn Tyr Gln
231          245          250          255
233 Gln Ala Gln Ser Arg His Leu Arg Leu Ser Tyr Leu Gly Ser Pro Pro
234          260          265          270
236 Leu Arg Ser Val Ser Asp Asn Thr Leu Val Ala Met Asp Phe Ser Gly
237          275          280          285
239 His Ala Gly Arg Val Ile Asp Asn Pro Arg Glu Ala Leu Ser Ala Ala
240          290          295          300
242 Met Glu Glu Ala Gln Ala Trp Arg Lys Lys Thr Asn His Arg Leu Ser
243          305          310          315          320
245 Leu Pro Thr Thr Cys Ser Gly Ser Ser Leu Ser Ala Ala Ile
246          325          330
249 (2) INFORMATION FOR SEQ ID NO: 10:
251 (i) SEQUENCE CHARACTERISTICS:
252 (A) LENGTH: 348 amino acids
253 (B) TYPE: amino acid
254 (C) STRANDEDNESS: single
255 (D) TOPOLOGY: unknown
257 (ii) MOLECULE TYPE: protein
259 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
261 Lys Glu Ala Lys Val Thr Lys Ile Phe Val Lys Phe Phe Val Glu Asp
262 1 5 10 15
264 Gly Glu Ala Leu Gln Leu Leu Ile Asp Glu Arg Trp Thr Val Ala Asp
265 20 25 30
267 Thr Leu Lys Gln Leu Ala Glu Lys Asn His Ile Ala Leu Met Glu Asp
268 35 40 45
270 His Cys Ile Val Glu Glu Tyr Pro Glu Leu Tyr Ile Lys Arg Val Tyr
271 50 55 60
273 Glu Asp His Glu Lys Val Val Glu Asn Ile Gln Met Trp Val Gln Asp
274 65 70 75 80
276 Ser Pro Asn Lys Leu Tyr Phe Met Arg Arg Pro Asp Lys Tyr Ala Phe
277 85 90 95
279 Ile Ser Arg Pro Glu Leu Tyr Leu Leu Thr Pro Lys Thr Ser Asp His
280 100 105 110
282 Met Glu Ile Pro Ser Gly Asp Gln Trp Thr Ile Asp Val Lys Gln Lys
283 115 120 125
285 Phe Val Ser Glu Tyr Phe His Arg Glu Pro Val Val Pro Pro Glu Met
286 130 135 140
288 Glu Gly Phe Leu Tyr Leu Lys Ser Asp Gly Arg Lys Ser Trp Lys Lys
289 145 150 155 160
291 His Tyr Phe Val Leu Arg Pro Ser Gly Leu Tyr Tyr Ala Pro Lys Ser
292 165 170 175

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```

294   Lys Lys Pro Thr Thr Lys Asp Leu Thr Cys Leu Met Asn Leu His Ser
295           180           185           190
297   Asn Gln Val Tyr Thr Gly Ile Gly Trp Glu Lys Lys Tyr Lys Ser Pro
298           195           200           205
300   Thr Pro Trp Cys Ile Ser Ile Lys Leu Thr Ala Leu Gln Met Lys Arg
301           210           215           220
303   Ser Gln Phe Ile Lys Tyr Ile Cys Ala Glu Asp Glu Met Thr Phe Lys
304           225           230           235           240
306   Lys Trp Leu Val Ala Leu Arg Ile Ala Lys Asn Gly Ala Glu Leu Leu
307           245           250           255
309   Glu Asn Tyr Glu Arg Ala Cys Gln Ile Arg Arg Glu Thr Leu Gly Pro
310           260           265           270
312   Ala Ser Ser Met Ser Ala Ala Ser Ser Ser Thr Ala Ile Ser Glu Val
313           275           280           285
315   Pro His Ser Leu Ser His His Gln Arg Thr Pro Ser Val Ala Ser Ser
316           290           295           300
318   Ile Gln Leu Ser Ser His Met Met Asn Asn Pro Thr His Pro Leu Ser
319           305           310           315           320
321   Val Asn Val Arg Asn Gln Ser Pro Ala Ser Phe Ser Val Asn Ser Cys
322           325           330           335
324   Gln Gln Ser His Pro Ser Arg Thr Ser Ala Lys Leu
325           340           345

```

328 (2) INFORMATION FOR SEQ ID NO: 11:

330 (i) SEQUENCE CHARACTERISTICS:

331 (A) LENGTH: 111 amino acids

332 (B) TYPE: amino acid

333 (C) STRANDEDNESS: single

334 (D) TOPOLOGY: unknown

336 (ii) MOLECULE TYPE: protein

338 (ix) FEATURE:

339 (A) NAME/KEY: Modified-site

340 (B) LOCATION: 1, 25-27, 32, 46, 47, 49, 52, 54, 72

341 75, 77, 93, 95, 105, 107, 108 and 111

342 (D) OTHER INFORMATION: /label= Xaa

343 /note= "Xaa at these positions = Hydrophobic
344 residues"

346 (ix) FEATURE:

347 (A) NAME/KEY: Modified-site

348 (B) LOCATION: 2, 21, 23 and 101

349 (D) OTHER INFORMATION: /label= Xaa

350 /note= "Xaa at these positions = Basic residues"

352 (ix) FEATURE:

353 (A) NAME/KEY: Modified-site

354 (B) LOCATION: 3, 7, 9, 11-19, 22, 28-31, 36-42, 44, 48

355 50, 51, 53, 55-70, 74, 76, 78-90, 92, 94

356 96-98, 106 109 and 110

357 (D) OTHER INFORMATION: /label= Xaa

358 /note= "Xaa at these positions = Non-consensus

359 residues"

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/18/2004
PATENT APPLICATION: US/10/679,694 TIME: 09:28:12

Input Set : N:\Crif3\RULE60\10679694.raw.txt
Output Set: N:\CRF4\10182004\J679694.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos.2,4,5
Seq#:3; Xaa Pos.3
Seq#:11; Xaa Pos.1,2,3,7,9,11,12,13,14,15,16,17,18,19,21,22,23,24,25,26,27
Seq#:11; Xaa Pos.28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,44,46,47,48
Seq#:11; Xaa Pos.49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67
Seq#:11; Xaa Pos.68,69,70,72,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88
Seq#:11; Xaa Pos.89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,105,106
Seq#:11; Xaa Pos.107,108,109,110,111
Seq#:12; Xaa Pos.7,11,12,13,14,15,16,17,22,28,29,31,33,35,38,39,40,41,42,46
Seq#:12; Xaa Pos.47,50,51,52,58,59,60,61,62,63,64,65,66,67,68,70,72,74,76
Seq#:12; Xaa Pos.77,78,80,81,82,83,84,85,86,87,88,89,90,91,92,96,98,109,110
Seq#:14; Xaa Pos.2,3,5
Seq#:15; Xaa Pos.1,3,5,7
Seq#:16; Xaa Pos.1,3,4,8,9

VERIFICATION SUMMARY

DATE: 10/18/2004

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TIME: 09:28:12

Input Set : N:\CrF3\RULE60\10679694.raw.txt

Output Set: N:\CRF4\10182004\J679694.raw

L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:32 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:32 M:238 W: Alpha Fields not Ordered, Reordered [(A) APPLICATION NUMBER:] of (1)(vi)
L:33 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:57 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:89 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:376 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
M:341 Repeated in SeqNo=11
L:550 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
M:341 Repeated in SeqNo=12
L:618 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0